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INTERPRETIVE MEMORANDUM

DATE: February 12, 2002

TO: All Local Health Departments
Attn.: Health Officer/Director of Environmental Health/Chief Sanitarian
MDA Food Program Staff

FROM: Food Service Sanitation Section & Food Inspection Section
Food and Dairy Division

SUBJECT: **Date Marking of Cheese in Retail Food Establishments**
Food Code § 3-501.17

ISSUE: Are all cheeses required to be date marked when the processor's package is opened and the product, in whole or in part, is repackaged or wrapped for sale or service, or for later use in a retail food establishment?

DISCUSSION: The Food Code specifies that ready-to-eat, potentially hazardous food prepared and held refrigerated for more than 24 hours in a retail food establishment must be marked at the time of preparation to indicate the date by which the food shall be consumed or discarded. It further stipulates that refrigerated, ready-to-eat, potentially hazardous food prepared and packaged by a food processing plant shall be clearly marked, at the time the original container or package is opened in a retail food establishment, to indicate the date by which the food shall be consumed or discarded.

The dating provision was introduced into the Food Code because of the potential for growth over time of psychrotrophic organisms, such as *Listeria monocytogenes* and *Yersinia enterocolitica*, in refrigerated, ready-to-eat foods. Refrigeration does not prevent growth of these organisms. However, the rate of growth is slowed as the temperature decreases. Dating requirements are set forth to minimize a potential hazard attributable to the growth of psychrotrophic organisms during extended periods of refrigeration.

The published literature on this issue shows that many soft cheeses exhibit the capability to support growth of *L. monocytogenes*.¹ Further, a number of soft cheeses have been implicated in foodborne illnesses.²

However, in addition to refrigeration, there are several factors in certain cheeses that may further control growth of pathogenic organisms. These factors may include the presence of organic acids, preservatives, or competing flora; pH; water activity; or salt concentration. When two or more of these are combined, the resultant effect is an additional hurdle to the outgrowth of pathogens of concern. It is precisely this effect that makes it possible to safely store some refrigerated cheeses beyond either one of the two Food Code criteria for date marking (i.e., 7 days at 41°F or 4 days at 45°F). There is a considerable body of evidence showing that certain cheeses do not support the growth of pathogens during the aging process and subsequent storage, although survival of the organisms is possible.^{3, 4, 5, 6} Also, evidence supporting the contention that growth of *L. monocytogenes* is inhibited during refrigerated storage can be found in inoculation studies conducted on various cheeses.⁷

Cheeses that do not support growth of *L. monocytogenes* include hard or semi-soft cheeses such as Cheddar and Romano or Colby and Swiss, and various pasteurized process cheeses. Hard cheeses are manufactured with a moisture content not exceeding 39 percent as specified in 21 CFR 133.150 and semi-soft cheeses contain more than 39 percent but less than 50 percent moisture as specified in 21 CFR 133.187. Pasteurized process cheeses (manufactured according to 21 CFR 133.169 and labeled as containing an acidifying agent) were also shown to inhibit growth of *L. monocytogenes*.

INTERPRETATION: Hard and semi-soft aged cheeses and pasteurized process cheese, each manufactured according to 21 CFR 133 as specifically cited above and maintained under refrigeration, are exempt from the Food Code's date marking provision relating to refrigerated, ready-to-eat, potentially hazardous food.

List of Some Hard and Semi-soft Cheeses Exempt from Date Marking	
Examples of Hard Cheeses Containing not more than 39% moisture (21 CFR 133.150)	Examples of Semi-soft Cheeses Containing more than 39%, but not more than 50% moisture (21 CFR 133.187)
Asiago medium Asiago old Cheddar Gruyere Parmesan and Reggiano Romano Sap sago	Asiago fresh and soft Blue Brick Caciocavallo Siciliano Colby (not more than 40% moisture) Edam Gorgonzola Gouda Limburger Monterey, Monterey Jack Muenster Pasteurized process cheese Provolone Roquefort, sheep's milk blue-mold Swiss and Emmentaler

Cheeses that are NOT exempt from the Food Code provisions for date marking include soft cheese such as Brie, Camembert, Cottage, Ricotta, and Teleme.

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6. Source and Persistence of *Salmonella muenster* in Naturally Contaminated Cheddar Cheese. D. S. Wood., D. L. Collins-Thompson, D. M. Irvine and A. N. Myhr. Journal of Food Protection, Vol. 47, No. 1, 1984. Pages 20-22.
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cc: Retail Food Advisory Board